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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
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DENVER, COLORADO 80202-2466

Ref: 8HWM-FF

JAN 15 1992

Mr. Frazer Lockhart
U.S. Department of Energy
Rocky Flats Office
P.O. Box 928
Golden, CO 80402-0928

RE: Final RFI/RI Work Plan
for Operable Unit 3

Dear Mr. Lockhart:

EPA has reviewed the final RFI/RI Work Plan for Operable Unit 3. The majority of the document is well researched and describes a comprehensive and adequate remedial investigation program. We note the improvements in the relationship between the site conceptual model and the data quality objectives and field sampling plan, the statistical basis for the sampling plan, and the commitment by DOE to evaluate the investigative results from other operable units and to expand the OU 3 program if warranted.

However, we also note a number of serious problems which must be addressed by DOE before the work plan can be approved. We believe the basis for DOE's proposed reservoir sediment investigation is technically flawed. In addition, since the environmental evaluation work plan and field sampling plan are essentially new sections of the RFI/RI Work Plan, we have specific comments on Section 8.0 which must be addressed. The enclosed summary of EPA's comments elaborate on these issues (Encl. 1). As lead regulatory agency, EPA grants approval for the final RFI/RI Work Plan for OU 3 on the condition that the document be revised to adequately address the specific problems indicated in our enclosed comments and in the comments from the Colorado Department of Health (Encl. 2).

Finally, EPA requests that DOE reconsider its position on the exclusion of non-radioactive contaminants from the analytical program for soils and air in OU 3. The chemical analytical program for OU 3 soils and air remains limited to plutonium, americium, and uranium. EPA believes that there is currently not enough information to state with an acceptable level of confidence that metal contamination does not exist in the OU 3 soils. As a result, the final OU 3 work plan leaves the characterization of the full nature and extent of contamination within OU 3 open to question and controversy. DOE has apparently chosen to risk the possibility of an additional phase of remedial investigation to characterize the nature and extent of non-radioactive contamination in the soils and air within OU 3. Such an investigation will be significantly more expensive in the future due to remobilization and contracting costs and will delay

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the entire OU 3 milestone schedule. EPA believes this is imprudent given the abundance of uncertainty which remains about the non-radioactive contamination of the off site areas from Rocky Flats operations. We believe the cost of performing this work now would be no greater than $90,000. EPA requests that DOE consider the cost as well as the following:

a. The 1989 surface soil survey performed by the Colorado Department of Health was evaluated for data useability by DOE in the Past Remedy Report. The study was rejected in all 6 data useability criteria.

b. The 1982 Barrick study has never been evaluated for its useability by DOE. The copy of the study which was provided to EPA would also be rejected in all 6 data useability criteria.

c. The method detection limit of 2.7 ug/gm for beryllium is an order of magnitude higher than the soils action level for beryllium (0.2 mg/kg) in the Proposed Rule for Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities (Federal Register Vol 55, No. 145, July 27, 1990). The action level in the proposed rule is based on a residential exposure scenario. DOE does not recognize or discuss this issue in the work plan. These results leave open the question of whether or not beryllium exists in hot spots in OU 3 at a level above 0.2 ug/gm and below 2.7 ug/gm.

d. If TAL metals are detected in the sediments of OU 3, a phase II soils investigation will be required to address pathway 14 and a phase II air investigation will be required to address pathway 1 and pathway 7.

e. If TAL metals are detected in the sediments of OU 3, there will be insufficient information to determine if RFP is the source of the contamination or if another source exists off site. This will put DOE in a very weak position to argue anything other than full responsibility for the sediment contamination.

f. DOE's radionuclide surficial soils sampling program has a power of 70 percent. There is a glaring inconsistency in the program because conclusions about metals contamination in the same media are based on studies rejected for useability. Therefore, no quantifiable confidence can be stated in the conclusion that metals contamination does not exist in OU 3 soils and air.

g. The OU 4 draft final phase I RFI/RI work plan described the nature and extent of metal contamination of the solar ponds as follows: "The transition metals occur naturally as trace constituents in soil, ground and surface water, but may also be significant environmental contaminants as a result of their widespread use and potential toxicity. Cadmium, chromium,

copper, and nickel occur in solar evaporation pond liquids and sludge. Their background dissolved concentrations in local ground water and surface water have not been formally established, but are likely to be in the 1 to 10 part per billion range (Hem, 1985). Background concentrations of these transition metals in Rocky Flats soil have recently been developed in the Final Background Geochemical Characterization report (EG&G, 1990). Mobility of these metals is limited by adsorption to clays, organic matter, and iron oxyhydroxides present in soils. Solubility is also limited by the formation of oxide or hydroxide solids under sulfate conditions. Migration of the transition metals is therefore limited in the subsurface environment. Transport in association with particulates as suspended or bed load solids in surface water or as dust in air is common" (EG&G, 1991). This paragraph clearly indicates that there is both a source of metals (cadmium, chromium, copper, and nickel in solar ponds liquids and sludge) as well as a pathway (transport in association with particulates as suspended or bed load solids in surface water or as dust in air is common). Because there is both a source and pathway, metals contamination meets DOE's criteria for inclusion as a contaminant of concern in its soils and air field sampling program. Resuspension of metals contamination in dry drainage sediments and deposition onto soils is an additional source and potential exposure pathway. For both of these reasons, metals should be added to the soils and air field sampling program.

A revised OU 3 Work Plan which addresses the enclosed conditions for approval must be submitted to EPA and CDH no later than February 28, 1992. The required submittal of the revised OU 3 Work Plan is a result of submittal of an inadequate and incomplete Final RFI/RI Work Plan for OU 3. Therefore, epa will not consider the required resubmittal as good cause for extensions of subsequent OU 3 milestone dates. We encourage DOE to contact EPA and CDH to discuss our expectations for the revised document as soon as possible. Our point of contact for OU 3 is Bonnie Lavelle, (303) 294-1067.

Sincerely,

W. C. Frazer for

Martin Hestmark, Manager
Rocky Flats Project

cc: Robert Birk, DOE
Erich Evered, EG&G
Michael Guillaume, EG&G
Joe Schieffelin, CDH
Gary Baughman, CDH